

NINE MILE POINT NUCLEAR STATION  
RADIOACTIVE EFFLUENT RELEASE  
SEMI-ANNUAL REPORT

JULY - DECEMBER 1978

DOCKET No.: 50-220

LICENSE No.: DPR-63

NIAGARA MOHAWK POWER CORPORATION

790319.0221



NINE MILE POINT NUCLEAR STATION  
RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT  
SUPPLEMENTAL INFORMATION

Facility: Nine Mile Point Unit #1  
Docket No.: 50-220  
License: DPR-63

License: Niagara Mohawk Power  
Corporation

1. Regulatory Limits

a) Fission and activation gases:

The release rate limit of noble gases from the site shall be:

$$\sum_i [Q'_{is} (1.6 \bar{E}_{i\gamma} + 0.3 \bar{E}_{i\beta}) + Q_{is} (2.7 \bar{E}_{i\gamma} + 0.5 \bar{E}_{i\beta}) + Q_{iv} (11.0 \bar{E}_{i\gamma} + 24.0 \bar{E}_{i\beta})] \leq 1$$

where  $Q'_s$  = release rate from Nine Mile Point Unit #1 main stack in Ci/sec (as elevated release)

$Q_s$  = release rate from the FitzPatrick main stack in Ci/sec (as elevated release)

$Q_v$  = release rate from the FitzPatrick vents in Ci/sec (ground release)

$i$  = the individual nuclide

$\bar{E}_{\gamma}$  = the average gamma energy per disintegration

$\bar{E}_{\beta}$  = the average beta energy per disintegration

b&c) Iodines and particulates, half lives > 8 days:

The release rate limit of all radionuclides and radioactive materials in particulate form with half-lives greater than eight days, released to the environs as part of the gaseous wastes from the site shall be:

$$1.2 \times 10^4 (Q'_s + 0.08 Q_s + 5.5 Q_v) \leq 1$$

where  $Q'_s$  = release rate from Nine Mile Point Unit #1 main stack in Ci/sec (as elevated release)

$Q_s$  = release rate from the FitzPatrick main stack in Ci/sec (as elevated release)

$Q_v$  = release rate from the FitzPatrick vents in Ci/sec (ground release)

d) Liquid Effluents:

1. Controlled in accordance with Appendix B, Table II Column 2, of 10 CFR 20 and Note 1 thereto.
2. Not to exceed 10 Ci/calendar quarter (excluding tritium and dissolved gases).



d) Liquid Effluents: (continued)

3. Not to exceed 20 Ci/12 consecutive months (excluding tritium and dissolved gases).

2. Maximum Permissible Concentrations

a) Fission and activation gases:

None specified

b&c) Iodines and particulates, half lives > 8 days:

None specified

d) Liquid effluents:

10CFR20, Appendix B, Table II, Column 2.

AVE MPC (July-Sept) = ----  $\mu$ Ci/ml (no discharges)

AVE MPC (Oct - Dec) = ----  $\mu$ Ci/ml (no discharges)

3. Average Energy (Fission and activation gases)

July-Sept  $\bar{E}_\gamma = 0.88$  mev,  $\bar{E}_\beta = 0.45$  mev.

Oct - Dec  $\bar{E}_\gamma = 0.80$  mev,  $\bar{E}_\beta = 0.43$  mev

4. Measurements and Approximations of Total Radioactivity

Provide the methods used to measure or approximate the total radioactivity in effluents and the methods used to determine radionuclide composition.

a. Fission and activation gases: Stack monitor calibrated to (GeLi) isotopic analysis of 2.5L Marinelli beaker.

b. Iodines: Weekly analysis (GeLi) of stack sampler charcoal cartridge.

c. Particulates: Isotopic analysis (GeLi) of stack sampler filters.

d. Liquid effluents: GeLi isotopic of representative sample of each batch.

5. Batch Releases

Provide the following information relating to batch releases of radioactive materials in liquid and gaseous effluents.

a. Liquid

1. Number of batch releases: 0

2. Total time period for batch releases: 0 hours 0 min.

3. Maximum time period for a batch release: 0 hours 0 min.



5. Batch Releases (continued)

a. Liquid (continued)

- 4. Average time period for a batch release: 0 hours 0 min.
- 5. Minimum time period for a batch release: 0 hours 0 min.
- 6. Average stream flow during period of release of effluent into a flowing stream: Not Applicable

b. Gaseous

Not Applicable

6. Abnormal Releases

a. Liquid

None

b. Gaseous

None





TABLE 1A

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
NINE MILE POINT NUCLEAR STATION  
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

		<u>UNIT</u>	<u>3rd QUARTER</u>	<u>4th QUARTER</u>	<u>EST. TOTAL ERROR, %</u>
A. Fission & activation gases					
1.	Total release	Ci	7.07E+02	5.63E+02	2.0E+01
2.	Average release rate for period	μCi/sec	8.89E+01	7.08E+01	
3.	Percent of Technical Specification limit	%	*	*	
B. Iodines					
1.	Total iodine-131	Ci	2.56E-02	1.55E-02	1.5E+01
2.	Average release rate for period	μCi/sec	3.22E-03	1.95E-03	
3.	Percent of Technical Specification limit	%	*	*	
C. Particulates					
1.	Particulates with half- lives > 8 days	Ci	6.46E-03	4.32E-03	2.0E+01
2.	Average release rate for period	μCi/sec	8.12E-04	5.44E-04	
3.	Percent of Technical Specification limit	%	*	*	
4.	Gross alpha radio- activity	Ci	4.24E-06	3.20E-05	
D. Tritium					
1.	Total release	Ci	2.09E+01	1.49E+01	2.0E+01
2.	Average release rate for period	μCi/sec	2.63E+00	1.88E+00	
3.	Percent of Technical Specification limit	%	None Specified		
E.* Percent of Technical Specification Limits					
Fission and activation gases:					
1.	NMP-1 elevated release	%	1.40E-02	9.90E-03	
2.	JAF elevated release	%	1.61E-02	7.51E-03	
3.	JAF ground-level release	%	1.91E-01	3.46E-03	
4.	Total Site Release	%	2.21E-01	2.09E-02	
Halogens and particulates with half-lives greater than 8 days:					
5.	NMP-1 elevated release	%	4.84E-03	2.99E-03	
6.	JAF elevated release	%	2.75E-04	8.93E-06	
7.	JAF ground-level release	%	6.33E-02	1.07E-02	
8.	Total Site Release	%	6.84E-02	1.37E-02	



TABLE 1B

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
 NINE MILE POINT NUCLEAR STATION  
 GASEOUS EFFLUENTS-ELEVATED RELEASE

Nuclides Released	Unit	CONTINUOUS MODE	
		Quarter 3rd	Quarter 4th
1. <u>Fission Gases</u>			
krypton-85m	Ci	----	----
krypton-87	Ci	----	----
krypton-88	Ci	2.29E+01	----
xenon-133	Ci	1.28E+01	----
xenon-135	Ci	1.41E+02	1.28E+02
xenon-135m	Ci	1.13E+02	1.30E+02
xenon-138	Ci	4.17E+02	3.05E+02
Total for period	Ci	7.07E+02	5.63E+02
2. <u>Iodines</u>			
iodine-131	Ci	2.56E-02	1.55E-02
iodine-133	Ci	1.81E-01	1.10E-01
iodine-135	Ci	2.91E-01	1.39E-01
Total for period	Ci	4.98E-01	2.65E-01
3. <u>Particulates</u>			
strontium-89	Ci	2.10E-03	7.94E-04
strontium-90	Ci	4.24E-05	< 1.42E-05
cesium-134	Ci	5.30E-05	----
cesium-137	Ci	3.37E-04	1.79E-04
cobalt-60	Ci	1.06E-03	1.40E-03
cobalt-58	Ci	----	----
manganese-54	Ci	1.28E-04	3.06E-04
barium-lanthanum-140	Ci	2.17E-03	1.33E-03
niobium-95	Ci	----	----
cerium-141	Ci	8.07E-05	----
cerium-144	Ci	----	----
iron-59	Ci	4.70E-05	----
cesium-136	Ci	2.99E-04	3.41E-05
chromium-51	Ci	1.48E-04	2.64E-04
Total for period		6.46E-03	4.32E-03



TABLE 1C

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
NINE MILE POINT NUCLEAR STATION  
GASEOUS EFFLUENTS-GROUND-LEVEL RELEASES

There are no ground level releases from the Nine Mile Point Nuclear Station Unit #1.



TABLE 2A

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
 NINE MILE POINT NUCLEAR STATION  
 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	3rd Quarter	4th Quarter	Est. Total Error, %
<u>A. Fission and activation products</u>				
1. Total release (not including tritium, gases, alpha)	Ci	None	None	----
2. Average diluted concentration during period	µCi/ml	----	----	
3. Percent of applicable limit	%	----	----	
<u>B. Tritium</u>				
1. Total release	Ci	None	None	----
2. Average diluted concentration during period	µCi/ml	----	----	
3. Percent of applicable limit	%	----	----	
<u>C. Dissolved and entrained gases</u>				
1. Total release	Ci	None	None	----
2. Average diluted concentration during period	µCi/ml	----	----	
3. Percent of applicable limit	%	----	----	
<u>D. Gross alpha radioactivity</u>				
1. Total release	Ci	None	None	----
<u>E. Volume of Waste Released (prior to dilution)</u>				
	liters	None	None	----
<u>F. Volume of dilution water used during period</u>				
	liters	----	----	----





TABLE 2B

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
NINE MILE POINT NUCLEAR STATION  
LIQUID EFFLUENTS

Nuclides Released	Unit	BATCH MODE	
		Quarter 3rd	Quarter 4th
strontium-89	Ci	None	None
strontium-90	Ci	"	"
cesium-134	Ci	"	"
cesium-137	Ci	"	"
iodine-131	Ci	"	"
cobalt-58	Ci	"	"
cobalt-60	Ci	"	"
manganese-54	Ci	"	"
chromium-51	Ci	"	"
zirconium-niobium-95	Ci	"	"
barium-lanthanum-140	Ci	"	"
tungsten-187	Ci	"	"
arsenic-76	Ci	"	"
iodine-133	Ci	"	"
iron-59	Ci	"	"
neptunium-239	Ci	"	"
praseodymium-144	Ci	"	"
iodine-135	Ci	"	"
xenon-133	Ci	"	"
xenon-135	Ci	"	"



TABLE 3

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
NINE MILE POINT NUCLEAR STATION  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (not irradiated fuel)

1.	<u>Type of Waste</u>	<u>Unit</u>	<u>July-Dec</u>	<u>Est. Total Error, %</u>
a.	Spent Resin	m <sup>3</sup>	1.40E+01	
		Ci	1.32E+03	2.5E+01
	Evaporator Bottom	m <sup>3</sup>	1.27E+02	
		Ci	7.73E+01	2.5E+01
	Resin or Filter Sludges	m <sup>3</sup>	5.30E+00	
		Ci	1.69E+02	3.0E+01
	Liquid Waste	m <sup>3</sup>	None	----
		Ci	----	
b.	Dry Compressible Waste or	m <sup>3</sup>	2.91E+01	
	Contaminated Equipment	Ci	8.00E-02	2.5E+01
c.	Irradiated Components	m <sup>3</sup>	None	
		Ci	----	2.5E+01

2. Estimate of Major Nuclide Composition (by type of waste)a. Evaporator Bottoms - Resins - Filter Sludges

Cobalt-60	%	3.50E+01
Cesium-137	%	5.00E+01
Cesium-134	%	1.50E+01

b. Dry Compressible Waste % Variesc. Irradiated Components

Cobalt-60	%	-----
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3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
23	Truck	Chem Nuclear Systems Barnwell, South Carolina

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None		



TABLE 4A

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1978)  
NINE MILE POINT NUCLEAR STATION  
HOURS AT EACH WIND SPEED AND DIRECTION

July - December



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

LE=1.9

DIRECTION	0-3		4-7		SPEEDS (MI/HR) 8-12		13-18		19-23		24 PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	15	.7	9	.4	19	.9	4	.2	1	.0	48	2.2
45.0	0	0.0	5	.2	7	.3	0	0.0	0	0.0	0	0.0	12	.6
67.5	0	0.0	4	.2	2	.1	0	0.0	0	0.0	0	0.0	6	.3
90.0	0	0.0	1	.0	3	.1	0	0.0	0	0.0	0	0.0	4	.2
112.5	0	0.0	0	0.0	3	.1	2	.1	0	0.0	0	0.0	5	.2
135.0	0	0.0	3	.1	5	.2	5	.2	1	.0	0	0.0	14	.7
157.5	0	0.0	4	.2	5	.2	2	.1	0	0.0	2	.1	13	.6
180.0	0	0.0	2	.1	12	.6	24	1.1	2	.1	1	.0	41	1.9
202.5	0	0.0	0	0.0	7	.3	3	.1	0	0.0	0	0.0	10	.5
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	0	0.0	0	0.0	4	.2	8	.4	0	0.0	0	0.0	12	.6
270.0	0	0.0	8	.4	8	.4	5	.2	0	0.0	0	0.0	21	1.0
292.5	1	.0	5	.2	4	.2	0	0.0	0	0.0	0	0.0	10	.5
315.0	0	0.0	6	.3	20	.9	3	.1	1	.0	0	0.0	30	1.4
337.5	0	0.0	5	.2	7	.3	8	.4	0	0.0	2	.1	22	1.0
360.0	1	.0	21	1.0	13	.6	6	.3	6	.3	0	0.0	47	2.2
	2	.1	79	3.7	109	5.1	85	3.9	14	.7	6	.3	295	13.7

MEAN WIND SPEED 11.1

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100M  
(200-27FT)

-1.8/-1.7

SPEEDS(MI/HR)																
0-3			4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT		
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT					
22,5	0	0,0	0	0,0	0	0,0	3	,1	2	,1	1	,0	6	,3		
45,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0		
67,5	0	0,0	2	,1	0	0,0	0	0,0	0	0,0	0	0,0	2	,1		
90,0	0	0,0	1	,0	0	0,0	0	0,0	0	0,0	0	0,0	1	,0		
112,5	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0		
135,0	0	0,0	0	0,0	1	,0	1	,0	2	,1	0	0,0	4	,2		
157,5	0	0,0	1	,0	0	0,0	0	0,0	0	0,0	0	0,0	1	,0		
180,0	0	0,0	0	0,0	3	,1	1	,0	0	0,0	2	,1	6	,3		
202,5	0	0,0	1	,0	0	0,0	0	0,0	0	0,0	0	0,0	1	,0		
225,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0		
247,5	0	0,0	0	0,0	11	,5	4	,2	0	0,0	0	0,0	15	,7		
270,0	0	0,0	0	0,0	9	,4	3	,1	0	0,0	0	0,0	12	,6		
292,5	0	0,0	1	,0	2	,1	0	0,0	0	0,0	0	0,0	3	,1		
315,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0		
337,5	0	0,0	2	,1	0	0,0	0	0,0	0	0,0	0	0,0	2	,1		
360,0	0	0,0	1	,0	0	0,0	0	0,0	0	0,0	1	,0	2	,1		
	0	0,0	9	,4	26	1,2	12	,6	4	,2	4	,2	55	2,6		

MEAN WIND SPEED 12.7

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE HILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

-1.6/ -1.5

SPEEDS (MI/HR)														
0-3			4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT			
22.5	1	.0	2	.1	4	.2	3	.1	1	.0	5	.2	16	.7
45.0	1	.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	4	.2
67.5	0	0.0	2	.1	2	.1	0	0.0	0	0.0	0	0.0	4	.2
90.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
112.5	0	0.0	2	.1	1	.0	1	.0	0	0.0	0	0.0	4	.2
135.0	1	.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
157.5	1	.0	3	.1	2	.1	1	.0	3	.1	0	0.0	10	.5
180.0	0	0.0	2	.1	1	.0	9	.4	3	.1	1	.0	16	.7
202.5	0	0.0	2	.1	4	.2	5	.2	0	0.0	0	0.0	11	.5
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	1	.0	0	0.0	5	.2	4	.2	0	0.0	2	.1	12	.6
270.0	3	.1	4	.2	12	.6	6	.3	2	.1	9	.4	36	1.7
292.5	0	0.0	4	.2	2	.1	0	0.0	6	.3	2	.1	14	.7
315.0	1	.0	5	.2	1	.0	1	.0	1	.0	0	0.0	9	.4
337.5	2	.1	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	4	.2
360.0	3	.1	2	.1	0	0.0	1	.0	0	0.0	3	.1	9	.4
	14	.7	31	1.4	38	1.8	31	1.4	16	.7	22	1.0	152	7.1

MEAN WIND SPEED 12.9

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100M  
(200-27FT)

-1.4/-0.5

SPEEDS (MI/HR)														
0-3			4-7		8-12		13-18		19-23		24-PLUS		SUM PERCENT	
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT	
22.5	6	.3	3	.1	9	.4	15	.7	6	.3	11	.5	50	2.3
45.0	1	.0	2	.1	8	.4	28	1.3	2	.1	5	.2	46	2.1
67.5	0	0.0	2	.1	4	.2	3	.1	0	0.0	0	0.0	9	.4
90.0	1	.0	5	.2	2	.1	1	.0	0	0.0	0	0.0	9	.4
112.5	0	0.0	3	.1	6	.3	3	.1	0	0.0	0	0.0	12	.6
135.0	0	0.0	5	.2	3	.1	9	.4	7	.3	0	0.0	24	1.1
157.5	0	0.0	5	.2	3	.1	5	.2	8	.4	0	0.0	21	1.0
180.0	1	.0	6	.3	15	.7	33	1.5	11	.5	6	.3	72	3.3
202.5	1	.0	8	.4	15	.7	12	.6	2	.1	0	0.0	38	1.8
225.0	0	0.0	3	.1	9	.4	11	.5	1	.0	0	0.0	24	1.1
247.5	1	.0	7	.3	37	1.7	20	.9	10	.5	8	.4	83	3.9
270.0	4	.2	10	.5	23	1.1	22	1.0	15	.7	18	.8	92	4.3
292.5	0	0.0	8	.4	7	.3	16	.7	11	.5	3	.1	45	2.1
315.0	1	.0	4	.2	3	.1	1	.0	3	.1	0	0.0	12	.6
337.5	4	.2	0	0.0	2	.1	3	.1	2	.1	3	.1	14	.7
360.0	6	.3	3	.1	1	.0	4	.2	1	.0	12	.6	27	1.3
	26	1.2	74	3.4	147	6.8	186	8.6	79	3.7	66	3.1	578	26.8

MEAN WIND SPEED 14.2

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

-0.4/ 1.5

DIRECTION	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	3	.1	3	.1	2	.1	12	.6	5	.2	0	0.0	25	1.2
45.0	1	.0	1	.0	7	.3	19	.9	7	.3	1	.0	36	1.7
67.5	3	.1	3	.1	6	.3	17	.8	2	.1	0	0.0	31	1.4
90.0	2	.1	2	.1	7	.3	5	.2	0	0.0	0	0.0	16	.7
112.5	1	.0	0	0.0	6	.3	6	.3	4	.2	0	0.0	17	.8
135.0	0	0.0	2	.1	8	.4	22	1.0	7	.3	0	0.0	39	1.8
157.5	2	.1	4	.2	10	.5	28	1.3	15	.7	0	0.0	59	2.7
180.0	2	.1	3	.1	28	1.3	59	2.7	26	1.2	12	.6	130	6.0
202.5	1	.0	2	.1	16	.7	63	2.9	3	.1	0	0.0	85	3.9
225.0	2	.1	5	.2	16	.7	11	.5	3	.1	1	.0	38	1.8
247.5	4	.2	8	.4	20	.9	11	.5	12	.6	12	.6	67	3.1
270.0	1	.0	10	.5	10	.5	14	.7	0	0.0	6	.3	41	1.9
292.5	2	.1	2	.1	4	.2	2	.1	2	.1	1	.0	13	.6
315.0	2	.1	1	.0	1	.0	4	.2	1	.0	1	.0	10	.5
337.5	2	.1	3	.1	1	.0	6	.3	0	0.0	0	0.0	12	.6
360.0	4	.2	2	.1	1	.0	3	.1	1	.0	1	.0	12	.6
	32	1.5	51	2.4	143	6.6	282	13.1	88	4.1	35	1.6	631	29.3

MEAN WIND SPEED 14.3

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100M  
(200-27FT)

1.6 / 4.0

DIRECTION	0-3		4-7		SPEEDS(MI/HR) 8-12		13-18		19-23		24 PLUS		SUM PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22.5	0	0.0	0	0.0	0	0.0	3	.1	4	.2	0	0.0	7	.3
45.0	3	.1	1	.0	1	.0	0	0.0	0	0.0	0	0.0	5	.2
67.5	0	0.0	0	0.0	4	.2	0	0.0	0	0.0	0	0.0	4	.2
90.0	1	.0	2	.1	10	.5	3	.1	0	0.0	0	0.0	16	.7
112.5	0	0.0	0	0.0	1	.0	4	.2	1	.0	0	0.0	6	.3
135.0	0	0.0	2	.1	1	.0	5	.2	1	.0	0	0.0	9	.4
157.5	0	0.0	3	.1	1	.0	3	.1	4	.2	0	0.0	11	.5
180.0	1	.0	2	.1	2	.1	19	.9	4	.2	0	0.0	28	1.3
202.5	1	.0	1	.0	5	.2	13	.6	6	.3	0	0.0	26	1.2
225.0	2	.1	4	.2	5	.2	14	.7	0	0.0	0	0.0	25	1.2
247.5	0	0.0	5	.2	6	.3	7	.3	0	0.0	1	.0	19	.9
270.0	0	0.0	5	.2	7	.3	3	.1	1	.0	0	0.0	16	.7
292.5	1	.0	2	.1	2	.1	0	0.0	0	0.0	0	0.0	5	.2
315.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1
337.5	0	0.0	0	0.0	1	.0	0	0.0	2	.1	0	0.0	3	.1
360.0	1	.0	1	.0	1	.0	5	.2	0	0.0	0	0.0	8	.4
	12	.6	29	1.3	47	2.2	79	3.7	23	1.1	1	.0	191	8.9

MEAN WIND SPEED 12.3

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DEG C/100M  
(200=27FT)

GT, 4.0

SPEEDS(MI/HR)														
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT	
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	.1	.0
45.0	2	.1	4	.2	0	0.0	0	0.0	0	0.0	0	0.0	6	.3
67.5	3	.1	9	.4	0	0.0	0	0.0	0	0.0	0	0.0	12	.6
90.0	3	.1	9	.4	12	.6	2	.1	0	0.0	0	0.0	26	1.2
112.5	2	.1	7	.3	3	.1	7	.3	0	0.0	0	0.0	19	.9
135.0	4	.2	4	.2	3	.1	1	.0	2	.1	0	0.0	14	.7
157.5	2	.1	4	.2	7	.3	9	.4	2	.1	0	0.0	24	1.1
180.0	2	.1	10	.5	17	.8	9	.4	0	0.0	0	0.0	38	1.8
202.5	0	0.0	6	.3	11	.5	11	.5	0	0.0	0	0.0	28	1.3
225.0	3	.1	5	.2	13	.6	16	.7	0	0.0	0	0.0	37	1.7
247.5	2	.1	16	.7	7	.3	2	.1	1	.0	0	0.0	28	1.3
270.0	4	.2	3	.1	0	0.0	2	.1	0	0.0	0	0.0	9	.4
292.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
315.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1
337.5	3	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	4	.2
360.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	1	.0
	32	1.5	81	3.8	73	3.4	59	2.7	6	.3	0	0.0	251	11.7

MEAN WIND SPEED 8.9

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

ALL STABILITIES

DIRECTION	SPEEDS(MT/HR)													
	0-3	4-7	8-12	13-18	19-23	24 PLUS	SUM	PERCENT						
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22,5	10	.5	24	1.1	24	1.1	55	2.6	22	1.0	18	.8	153	7.1
45,0	8	.4	15	.7	24	1.1	47	2.2	9	.4	6	.3	109	5.1
67,5	6	.3	22	1.0	18	.8	20	.9	2	.1	0	0.0	68	3.2
90,0	7	.3	21	1.0	34	1.6	11	.5	0	0.0	0	0.0	73	3.4
112,5	3	.1	12	.6	20	.9	23	1.1	5	.2	0	0.0	63	2.9
135,0	5	.2	16	.7	22	1.0	43	2.0	20	.9	0	0.0	106	4.9
157,5	5	.2	24	1.1	28	1.3	48	2.2	32	1.5	2	.1	139	6.5
180,0	6	.3	25	1.2	78	3.6	154	7.2	46	2.1	22	1.0	331	15.4
202,5	3	.1	20	.9	58	2.7	107	5.0	11	.5	0	0.0	199	9.2
225,0	7	.3	17	.8	43	2.0	52	2.4	4	.2	1	.0	124	5.8
247,5	8	.4	36	1.7	90	4.2	56	2.6	23	1.1	23	1.1	236	11.0
270,0	12	.6	40	1.9	69	3.2	55	2.6	18	.8	33	1.5	227	10.5
292,5	4	.2	23	1.1	21	1.0	18	.8	19	.9	6	.3	91	4.2
315,0	8	.4	18	.8	25	1.2	9	.4	6	.3	1	.0	67	3.1
337,5	11	.5	11	.5	13	.6	17	.8	4	.2	5	.2	61	2.8
360,0	15	.7	30	1.4	16	.7	19	.9	9	.4	17	.8	106	4.9
	118	5.5	354	16.4	583	27.1	734	34.1	230	10.7	134	6.2	2153	100.0

MISSING HOURS 55

MEAN WIND SPEED 12.9

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 19 PERCENT .9



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 200FT

DIRECTION VS SPEED

SPEEDS(MI/HR)

0-3

4-7

8-12

13-18

19-23

24 PLUS

SUM PERCENT

DIRECTION	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT							
22,5	10	,5	24	1,1	24	1,1	57	2,6	22	1,0	18	,8	155	7,1
45,0	8	,4	15	,7	26	1,2	47	2,2	9	,4	6	,3	111	5,1
67,5	6	,3	22	1,0	18	,8	20	,9	2	,1	0	0,0	68	3,1
90,0	7	,3	21	1,0	34	1,6	11	,5	0	0,0	0	0,0	73	3,3
112,5	3	,1	12	,6	20	,9	23	1,1	5	,2	0	0,0	63	2,9
135,0	5	,2	16	,7	22	1,0	44	2,0	20	,9	0	0,0	107	4,9
157,5	5	,2	24	1,1	28	1,3	48	2,2	32	1,5	2	,1	139	6,4
180,0	6	,3	25	1,1	78	3,6	154	7,1	46	2,1	22	1,0	331	15,2
202,5	3	,1	20	,9	58	2,7	108	5,0	11	,5	0	0,0	200	9,2
225,0	7	,3	17	,8	43	2,0	52	2,4	4	,2	1	,0	124	5,7
247,5	8	,4	36	1,7	90	4,1	56	2,6	23	1,1	23	1,1	236	10,8
270,0	12	,6	40	1,8	69	3,2	55	2,5	18	,8	33	1,5	227	10,4
292,5	4	,2	23	1,1	21	1,0	18	,8	19	,9	6	,3	91	4,2
315,0	8	,4	19	,9	25	1,1	9	,4	6	,3	1	,0	68	3,1
337,5	11	,5	12	,6	16	,7	19	,9	4	,2	5	,2	67	3,1
360,0	15	,7	30	1,4	21	1,0	27	1,2	11	,5	17	,8	121	5,5
	118	5,4	356	16,3	593	27,2	748	34,3	232	10,6	134	6,1	2181	100,0

MISSING HOURS 27

MEAN WIND SPEED 12,9

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 19 PERCENT 9





LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

DEG C/100H  
(200-27F)

LE=1.9

SPEEDS (MI/HR)														
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT		
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT			
22.5	5	.2	35	1.6	1	.0	0	0.0	0	0.0	0	0.0	41	1.9
45.0	4	.2	8	.4	0	0.0	0	0.0	0	0.0	0	0.0	12	.6
67.5	4	.2	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	5	.2
90.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
112.5	0	0.0	5	.2	5	.2	0	0.0	0	0.0	0	0.0	10	.5
135.0	0	0.0	7	.3	5	.2	0	0.0	0	0.0	0	0.0	12	.6
157.5	0	0.0	17	.8	12	.6	2	.1	0	0.0	0	0.0	31	1.4
180.0	3	.1	4	.2	24	1.1	0	0.0	0	0.0	0	0.0	31	1.4
202.5	0	0.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	3	.1
225.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
247.5	0	0.0	1	.0	12	.6	1	.0	0	0.0	0	0.0	14	.6
270.0	2	.1	5	.2	7	.3	2	.1	0	0.0	0	0.0	16	.7
292.5	2	.1	13	.6	5	.2	0	0.0	0	0.0	0	0.0	20	.9
315.0	7	.3	33	1.5	8	.4	0	0.0	0	0.0	0	0.0	48	2.2
337.5	15	.7	5	.2	0	0.0	0	0.0	0	0.0	0	0.0	20	.9
360.0	13	.6	17	.8	0	0.0	0	0.0	0	0.0	0	0.0	30	1.4
	55	2.5	156	7.2	80	3.7	5	.2	0	0.0	0	0.0	296	13.6

MEAN WIND SPEED 6.0

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/78-9/78

LOCATION:30-CUP

DEG C/100M  
(200-27FT)

-1.8/ -1.7

SPEEDS (MI/HR)															
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT			
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	
22.5	0	0.0	7	.3	0	0.0	0	0.0	0	0.0	0	0.0	7	.3	
45.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	
67.5	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	
90.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	
112.5	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0	
135.0	0	0.0	1	.0	2	.1	0	0.0	0	0.0	0	0.0	3	.1	
157.5	1	.0	0	0.0	2	.1	2	.1	0	0.0	0	0.0	5	.2	
180.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1	
202.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
247.5	0	0.0	1	.0	11	.5	0	0.0	0	0.0	0	0.0	12	.6	
270.0	0	0.0	0	0.0	11	.5	3	.1	0	0.0	0	0.0	14	.6	
292.5	0	0.0	2	.1	2	.1	0	0.0	0	0.0	0	0.0	4	.2	
315.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1	
337.5	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0	
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	5	.2	15	.7	30	1.4	5	.2	0	0.0	0	0.0	55	2.5	

MEAN WIND SPEED 8.1

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 30=CUP

DEG C/100M  
(200-27FT)

=1.6/ =1.5

SPEEDS (MI/HR)																
0-3			4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT			
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT					
22.5	2	.1	6	.3	4	.2	0	0.0	0	0.0	0	0.0	12	.6		
45.0	5	.2	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	7	.3		
67.5	4	.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	.2		
90.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1		
112.5	2	.1	2	.1	1	.0	0	0.0	0	0.0	0	0.0	5	.2		
135.0	1	.0	3	.1	3	.1	0	0.0	0	0.0	0	0.0	7	.3		
157.5	0	0.0	2	.1	7	.3	0	0.0	0	0.0	0	0.0	9	.4		
180.0	4	.2	2	.1	9	.4	1	.0	0	0.0	0	0.0	16	.7		
202.5	0	0.0	4	.2	2	.1	0	0.0	0	0.0	0	0.0	6	.3		
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
247.5	0	0.0	0	0.0	5	.2	2	.1	1	.0	0	0.0	8	.4		
270.0	4	.2	6	.3	14	.6	6	.3	5	.2	4	.2	39	1.8		
292.5	2	.1	4	.2	1	.0	6	.3	2	.1	0	0.0	15	.7		
315.0	3	.1	4	.2	2	.1	1	.0	0	0.0	0	0.0	10	.5		
337.5	7	.3	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	9	.4		
360.0	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1		
	39	1.8	37	1.7	48	2.2	16	.7	8	.4	4	.2	152	7.0		

MEAN WIND SPEED 8.2

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

DEG C/100M  
(200=27FT)

-1.4/ -0.5

		SPEEDS(MI/HR)													
		0-3		4-7		8-12		13-18		19-23		24-PLUS		SUM PERCENT	
DIRECTION		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT			
22.5	7	.3	32	1.5	10	.5	0	0.0	0	0.0	0	0.0	0	49	2.3
45.0	12	.6	29	1.3	5	.2	0	0.0	0	0.0	0	0.0	0	46	2.1
67.5	8	.4	11	.5	0	0.0	0	0.0	0	0.0	0	0.0	0	19	.9
90.0	7	.3	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	10	.5
112.5	1	.0	12	.6	7	.3	0	0.0	0	0.0	0	0.0	0	20	.9
135.0	3	.1	11	.5	15	.7	0	0.0	0	0.0	0	0.0	0	29	1.3
157.5	5	.2	19	.9	18	.8	4	.2	0	0.0	0	0.0	0	46	2.1
180.0	5	.2	17	.8	29	1.3	1	.0	0	0.0	0	0.0	0	52	2.4
202.5	3	.1	10	.5	12	.6	0	0.0	0	0.0	0	0.0	0	25	1.1
225.0	2	.1	15	.7	7	.3	3	.1	0	0.0	0	0.0	0	27	1.2
247.5	0	0.0	23	1.1	31	1.4	12	.6	3	.1	0	0.0	0	69	3.2
270.0	7	.3	14	.6	33	1.5	27	1.2	15	.7	0	0.0	0	96	4.4
292.5	4	.2	8	.4	12	.6	18	.8	4	.2	0	0.0	0	46	2.1
315.0	5	.2	10	.5	4	.2	4	.2	0	0.0	0	0.0	0	23	1.1
337.5	10	.5	4	.2	0	0.0	0	0.0	0	0.0	0	0.0	0	14	.6
360.0	7	.3	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	10	.5
	86	4.0	221	10.2	183	8.4	69	3.2	22	1.0	0	0.0	0	581	26.7

MEAN WIND SPEED 7.9

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

DEG C/100M  
(200=27FT)

-0.4/ 1.5

SPEEDS(MI/HR)															
0-3			4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT		
DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT				
22.5	5	.2	6	.3	0	0.0	0	0.0	0	0.0	0	0.0	11	.5	
45.0	11	.5	21	1.0	0	0.0	0	0.0	0	0.0	0	0.0	32	1.5	
67.5	20	.9	27	1.2	0	0.0	0	0.0	0	0.0	0	0.0	47	2.2	
90.0	19	.9	9	.4	0	0.0	0	0.0	0	0.0	0	0.0	28	1.3	
112.5	17	.8	19	.9	15	.7	0	0.0	0	0.0	0	0.0	51	2.3	
135.0	8	.4	26	1.2	29	1.3	0	0.0	0	0.0	0	0.0	63	2.9	
157.5	11	.5	34	1.6	30	1.4	3	.1	0	0.0	0	0.0	78	3.6	
180.0	9	.4	82	3.8	44	2.0	0	0.0	0	0.0	0	0.0	135	6.2	
202.5	6	.3	14	.6	9	.4	0	0.0	0	0.0	0	0.0	29	1.3	
225.0	9	.4	13	.6	7	.3	3	.1	0	0.0	0	0.0	32	1.5	
247.5	2	.1	10	.5	23	1.1	12	.6	0	0.0	0	0.0	47	2.2	
270.0	8	.4	16	.7	3	.1	5	.2	3	.1	1	.0	36	1.7	
292.5	10	.5	4	.2	5	.2	3	.1	0	0.0	0	0.0	22	1.0	
315.0	2	.1	4	.2	5	.2	0	0.0	0	0.0	0	0.0	11	.5	
337.5	7	.3	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	9	.4	
360.0	6	.3	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	8	.4	
	150	6.9	289	13.3	170	7.8	26	1.2	3	.1	1	.0	639	29.4	

MEAN WIND SPEED 6.1

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/73-9/78

LOCATION 30-CUP

DEG C/100H  
(200=27FT)

1.6 / 4.0

		SPEEDS(MI/HR)															
		0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT		
DIRECTION		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT					
22.5	4	.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	.2			
49.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1			
67.5	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1			
90.0	12	.6	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	15	.7			
112.5	10	.5	16	.7	0	0.0	0	0.0	0	0.0	0	0.0	26	1.2			
134.0	10	.5	10	.5	0	0.0	0	0.0	0	0.0	0	0.0	20	.9			
157.5	6	.3	18	.8	2	.1	0	0.0	0	0.0	0	0.0	26	1.2			
180.0	5	.2	34	1.6	3	.1	0	0.0	0	0.0	0	0.0	42	1.9			
202.5	6	.3	13	.6	0	0.0	0	0.0	0	0.0	0	0.0	19	.9			
225.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1			
247.5	4	.2	6	.3	1	.0	1	.0	0	0.0	0	0.0	12	.6			
270.0	10	.5	5	.2	1	.0	0	0.0	0	0.0	0	0.0	16	.7			
292.5	3	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	4	.2			
315.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1			
337.5	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0			
360.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0			
	80	3.7	108	5.0	7	.3	1	.0	0	0.0	0	0.0	196	9.0			

MEAN WIND SPEED 4.1

NUMBER OF UNINTERPRETABLE HOURS .0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

DEG C/100M  
(200-27FT)

GT. 4.0

		SPEEDS (MI/HR)													
		0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
DIRECTION		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT			
22.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
45.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
67.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
90.0	13	.6	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	16	.7	
112.5	53	2.4	13	.6	0	0.0	0	0.0	0	0.0	0	0.0	66	3.0	
135.0	34	1.6	31	1.4	0	0.0	0	0.0	0	0.0	0	0.0	65	3.0	
157.5	19	.9	47	2.2	0	0.0	0	0.0	0	0.0	0	0.0	66	3.0	
180.0	6	.3	34	1.6	0	0.0	0	0.0	0	0.0	0	0.0	40	1.8	
202.5	1	.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1	
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
247.5	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0	
270.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1	
292.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
315.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
337.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	126	5.8	130	6.0	2	.1	0	0.0	0	0.0	0	0.0	258	11.9	

MEAN WIND SPEED 3.6

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

ALL STABILITIES

SPEEDS (MI/HR)															
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT			
DIRECTION	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT		
22,5	23	1,1	86	4,0	15	,7	0	0,0	0	0,0	0	0,0	124	5,7	
45,0	34	1,6	61	2,8	5	,2	0	0,0	0	0,0	0	0,0	100	4,6	
67,5	40	1,8	39	1,8	0	0,0	0	0,0	0	0,0	0	0,0	79	3,6	
90,0	53	2,4	21	1,0	0	0,0	0	0,0	0	0,0	0	0,0	74	3,4	
112,5	83	3,8	67	3,1	29	1,3	0	0,0	0	0,0	0	0,0	179	8,2	
135,0	56	2,6	89	4,1	54	2,5	0	0,0	0	0,0	0	0,0	199	9,1	
157,5	42	1,9	137	6,3	71	3,3	11	,5	0	0,0	0	0,0	261	12,0	
180,0	32	1,5	174	8,0	110	5,1	2	,1	0	0,0	0	0,0	318	14,6	
202,5	16	,7	45	2,1	24	1,1	0	0,0	0	0,0	0	0,0	85	3,9	
225,0	12	,6	30	1,4	14	,6	6	,3	0	0,0	0	0,0	62	2,8	
247,5	6	,3	41	1,9	88	3,9	28	1,3	4	,2	0	0,0	163	7,5	
270,0	31	1,4	47	2,2	70	3,2	43	2,0	23	1,1	5	,2	219	10,1	
292,5	21	1,0	32	1,5	25	1,1	27	1,2	6	,3	0	0,0	111	5,1	
315,0	21	1,0	52	2,4	19	,9	5	,2	0	0,0	0	0,0	97	4,5	
337,5	41	1,9	13	,6	0	0,0	0	0,0	0	0,0	0	0,0	54	2,5	
360,0	30	1,4	22	1,0	0	0,0	0	0,0	0	0,0	0	0,0	52	2,4	
	541	24,9	956	43,9	520	23,9	122	5,6	33	1,5	5	,2	2177	100,0	

MISSING HOURS 31

MEAN WIND SPEED 6,3

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0  
TOTAL NUMBER OF CALM HOURS 4 PERCENT 0,2





LAPSE RATE WIND DIST, FOR NINE MILE SITE 7/78-9/78

LOCATION 30-CUP

DIRECTION VS SPEED

SPEEDS(MI/HR)														
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT	
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	23	1.0	88	4.0	15	.7	0	0.0	0	0.0	0	0.0	126	5.7
45.0	34	1.5	63	2.9	5	.2	0	0.0	0	0.0	0	0.0	102	4.6
67.5	41	1.9	39	1.8	0	0.0	0	0.0	0	0.0	0	0.0	80	3.6
90.0	53	2.4	21	1.0	0	0.0	0	0.0	0	0.0	0	0.0	74	3.4
112.5	83	3.8	67	3.0	30	1.4	0	0.0	0	0.0	0	0.0	180	8.2
135.0	56	2.5	89	4.0	54	2.4	0	0.0	0	0.0	0	0.0	199	9.0
157.5	42	1.9	137	6.2	71	3.2	11	.5	0	0.0	0	0.0	261	11.8
180.0	32	1.5	174	7.9	111	5.0	2	.1	0	0.0	0	0.0	319	14.5
202.5	16	.7	45	2.0	24	1.1	0	0.0	0	0.0	0	0.0	85	3.9
225.0	12	.5	30	1.4	14	.6	6	.3	0	0.0	0	0.0	62	2.8
247.5	6	.3	41	1.9	84	3.8	28	1.3	4	.2	0	0.0	163	7.4
270.0	32	1.5	47	2.1	70	3.2	43	2.0	23	1.0	5	.2	220	10.0
292.5	21	1.0	32	1.5	25	1.1	27	1.2	6	.3	0	0.0	111	5.0
315.0	23	1.0	57	2.6	19	.9	5	.2	0	0.0	0	0.0	104	4.7
337.5	41	1.9	19	.9	0	0.0	0	0.0	0	0.0	0	0.0	60	2.7
360.0	31	1.4	28	1.3	0	0.0	0	0.0	0	0.0	0	0.0	59	2.7
	546	24.8	977	44.3	522	23.7	122	5.5	33	1.5	5	.2	2205	100.0

MISSING HOURS 3

MEAN WIND SPEED 6.3

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 4 PERCENT .2



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100M  
(200=27°F)

LE=1.9

## SPEEDS (MI/HR)

	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22.5	0	0.0	1	.0	4	.2	7	.3	0	0.0	0	0.0	12	.6
45.0	0	0.0	1	.0	1	.0	6	.3	0	0.0	0	0.0	8	.4
67.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	0.0	1	.0
90.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
112.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
135.0	0	0.0	1	.0	1	.0	1	.0	0	0.0	0	0.0	3	.1
157.5	0	0.0	0	0.0	7	.3	5	.2	0	0.0	0	0.0	12	.6
180.0	0	0.0	0	0.0	2	.1	5	.2	0	0.0	0	0.0	7	.3
202.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0
270.0	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
292.5	0	0.0	0	0.0	0	0.0	4	.2	0	0.0	1	.0	5	.2
315.0	0	0.0	0	0.0	2	.1	1	.0	5	.2	3	.1	11	.5
337.5	0	0.0	1	.0	2	.1	1	.0	0	0.0	1	.0	5	.2
360.0	0	0.0	1	.0	3	.1	4	.2	1	.0	5	.2	14	.6
	0	0.0	6	.3	23	1.1	35	1.6	6	.3	10	.5	80	3.7

MEAN WIND SPEED 14.7

NUMBER OF UNINTERPRETABLE HOURS 0



)



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100M  
(200-27PT)

=1.8/ =1.7

## SPEEDS (MI/HR)

	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	0	0.0	0	0.0	1	.0	1	0.0	0	0.0	2	.1
45.0	0	0.0	0	0.0	1	.0	2	.1	0	0.0	0	0.0	3	.1
67.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
90.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
112.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
135.0	0	0.0	1	.0	0	0.0	1	.0	0	0.0	0	0.0	2	.1
157.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
180.0	0	0.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	2	.1
202.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	0	0.0	0	0.0	2	.1	2	.1	0	0.0	1	.0	5	.2
270.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	3	.1	4	.1
292.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	.3	6	.3
315.0	0	0.0	0	0.0	0	0.0	1	.0	3	.1	1	.0	5	.2
337.5	0	0.0	0	0.0	0	0.0	2	.1	1	.0	2	.1	5	.2
360.0	0	0.0	0	0.0	1	.0	0	0.0	2	.1	2	.1	5	.2
	0	0.0	3	.1	5	.2	11	.5	7	.3	15	.7	41	1.9

MEAN WIND SPEED 19.8

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

-1.6/ -1.5

DIRECTION	0-3		4-7		SPEEDS (MI/HR) 8-12		13-18		19-23		24 PLUS		SUM PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22.5	0	0.0	2	.1	2	.1	3	.1	0	0.0	7	.3	14	.6
45.0	0	0.0	0	0.0	1	.0	0	0.0	1	.0	4	.2	6	.3
67.5	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
90.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
112.5	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
135.0	0	0.0	1	.0	3	.1	2	.1	0	0.0	0	0.0	6	.3
157.5	0	0.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
180.0	0	0.0	0	0.0	4	.2	5	.1	0	0.0	0	0.0	7	.3
202.5	0	0.0	0	0.0	0	0.0	3	.1	2	.1	0	0.0	5	.2
225.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
247.5	0	0.0	0	0.0	3	.1	0	0.0	0	0.0	0	0.0	3	.1
270.0	0	0.0	0	0.0	5	.2	2	.1	2	.1	15	.7	24	1.1
292.5	0	0.0	0	0.0	0	0.0	0	0.0	3	.1	14	.6	17	.8
315.0	0	0.0	0	0.0	0	0.0	4	.2	11	.5	27	1.3	42	1.9
337.5	0	0.0	0	0.0	1	.0	1	.0	9	.4	0	0.0	11	.5
360.0	0	0.0	0	0.0	2	.1	1	.0	4	.2	2	.1	9	.4
	0	0.0	6	.3	23	1.1	20	.9	32	1.5	69	3.2	150	6.9

MEAN WIND SPEED 21.9

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

W1.4/ W0.5

SPEEDS (MI/HR)														
0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT		
DIRECTION	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT
22.5	0	0.0	12	.6	20	.9	17	.8	3	.1	2	.1	.54	2.5
45.0	0	0.0	3	.1	11	.5	31	1.4	8	.4	16	.7	.69	3.2
67.5	1	.0	1	.0	11	.5	3	.1	1	.0	0	0.0	.17	.8
90.0	1	.0	9	.4	11	.5	10	.5	0	0.0	0	0.0	.31	1.4
112.5	0	0.0	5	.2	7	.3	21	1.0	10	.5	2	.1	.45	2.1
135.0	0	0.0	6	.3	11	.5	29	1.3	16	.7	9	.4	.71	3.3
157.5	2	.1	2	.1	7	.3	13	.6	1	.0	3	.1	.28	1.3
180.0	0	0.0	5	.2	11	.5	22	1.0	10	.5	7	.3	.55	2.5
202.5	1	.0	3	.1	12	.6	42	1.9	3	.1	0	0.0	.61	2.8
225.0	0	0.0	1	.0	8	.4	26	1.2	7	.3	2	.1	.44	2.0
247.5	0	0.0	2	.1	9	.4	13	.6	12	.6	63	2.9	.99	4.6
270.0	0	0.0	6	.3	27	1.3	24	1.1	27	1.3	78	3.6	1.62	7.5
292.5	1	.0	5	.2	21	1.0	22	1.0	19	.9	49	2.3	1.17	5.4
315.0	0	0.0	3	.1	2	.1	23	1.1	14	.6	41	1.9	.83	3.8
337.5	0	0.0	2	.1	8	.4	10	.5	15	.7	8	.4	.43	2.0
360.0	2	.1	6	.3	8	.4	5	.2	8	.4	4	.2	.33	1.5
	8	.4	71	3.3	184	8.5	311	14.6	154	7.1	284	13.1	1012	46.9

MEAN WIND SPEED 19.1

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100M  
(200-27FT)

40.4/ 1.5

## SPEEDS (MI/HR)

8-12

13-18

19-23

24 PLUS

SUM PERCENT

DIRECTION	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	0	0.0	4	.2	3	.1	2	.1	2	.1	11	.5
45.0	0	0.0	1	.0	8	.4	11	.5	5	.2	0	0.0	25	1.2
67.5	0	0.0	3	.1	11	.5	5	.2	1	.0	0	0.0	20	.9
90.0	0	0.0	8	.4	11	.5	1	.0	0	0.0	0	0.0	20	.9
112.5	0	0.0	5	.2	8	.4	14	.6	3	.1	0	0.0	30	1.4
135.0	0	0.0	2	.1	9	.4	39	1.8	14	.6	15	.7	79	3.7
157.5	0	0.0	2	.1	13	.6	43	2.0	26	1.2	20	.9	104	4.8
180.0	1	.0	3	.1	14	.6	71	3.3	45	2.1	7	.3	141	6.5
202.5	1	.0	0	0.0	12	.6	41	1.9	18	.8	0	0.0	73	3.4
225.0	0	0.0	0	0.0	7	.3	53	2.5	14	.6	0	0.0	74	3.4
247.5	0	0.0	1	.0	10	.5	10	.5	2	.1	24	1.1	47	2.2
270.0	1	.0	2	.1	7	.3	6	.3	1	.0	21	1.0	38	1.8
292.5	0	0.0	1	.0	3	.1	0	0.0	0	0.0	1	.0	5	.2
315.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
337.5	0	0.0	1	.0	0	0.0	2	.1	0	0.0	0	0.0	3	.1
360.0	0	0.0	1	.0	5	.2	3	.1	3	.1	0	0.0	12	.6
	3	.1	32	1.5	123	5.7	302	14.0	134	6.2	90	4.2	684	31.7

MEAN WIND SPEED 17.2

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100M 1.6 / 4.0  
(200-27FT)

DIRECTION	0-3		4-7		SPEEDS (MI/HR) 8-12		13-18		19-23		24 PLUS		SUM PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
45.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
67.5	0	0.0	2	.1	4	.2	0	0.0	0	0.0	0	0.0	6	.3
90.0	0	0.0	3	.1	9	.4	1	.0	0	0.0	0	0.0	13	.6
112.5	0	0.0	2	.1	2	.1	2	.1	0	0.0	0	0.0	6	.3
135.0	1	.0	1	.0	2	.1	5	.2	0	0.0	0	0.0	9	.4
157.5	0	0.0	1	.0	1	.0	6	.3	2	.1	0	0.0	10	.5
180.0	0	0.0	2	.1	4	.2	20	.9	4	.2	0	0.0	30	1.4
202.5	0	0.0	1	.0	5	.2	5	.2	9	.4	0	0.0	20	.9
225.0	0	0.0	1	.0	4	.2	11	.5	3	.1	0	0.0	19	.9
247.5	0	0.0	0	0.0	7	.3	1	.0	0	0.0	0	0.0	8	.4
270.0	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
292.5	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
315.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
337.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2		.1	13	.6	41	1.9	51	2.4	16	.8	0	0.0	125	5.8

MEAN WIND SPEED 13.3

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DEG C/100H  
(200-27FT)

GT. 4.0

## SPEEDS(MI/HR)

0-3

4-7

8-12

13-18

19-23

24-PLUS

SUM PERCENT

DIRECTION	SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM PERCENT		SUM	PERCENT
22.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
45.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
67.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
90.0	2	.1	1	.0	5	.2	1	.0	0	0.0	0	0.0	9	.4
112.5	1	.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
135.0	0	0.0	0	0.0	3	.1	0	0.0	0	0.0	0	0.0	3	.1
157.5	0	0.0	0	0.0	1	.0	3	.2	0	0.0	0	0.0	6	.3
180.0	0	0.0	4	.2	7	.3	3	.1	0	0.0	0	0.0	14	.6
202.5	0	0.0	0	0.0	3	.1	8	.4	2	.1	0	0.0	13	.6
225.0	0	0.0	1	.0	5	.2	4	.2	0	0.0	0	0.0	10	.5
247.5	0	0.0	2	.1	4	.2	0	0.0	0	0.0	0	0.0	6	.3
270.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
292.5	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
315.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
337.5	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	4	.2	10	.5	31	1.4	21	1.0	2	.1	0	0.0	68	3.1

MEAN WIND SPEED 10.8

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

ALL STABILITIES

DIRECTION	0-3		4-7		SPEEDS (MI/HR) 8-12		13-16		17-23		24 PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	15	.7	30	1.4	31	1.4	6	.3	11	.5	93	4.3
45.0	0	0.0	5	.2	23	1.1	50	2.3	14	.6	20	.9	112	5.2
67.5	1	.0	8	.4	26	1.2	9	.4	2	.1	0	0.0	46	2.1
90.0	3	.1	21	1.0	36	1.7	13	.6	0	0.0	0	0.0	73	3.4
112.5	1	.0	14	.6	18	.8	37	1.7	13	.6	2	.1	85	3.9
135.0	1	.0	12	.6	29	1.3	77	3.6	30	1.4	24	1.1	173	8.0
157.5	2	.1	7	.3	30	1.4	72	3.3	29	1.3	23	1.1	163	7.5
180.0	1	.0	14	.6	43	2.0	123	5.8	59	2.7	14	.6	256	11.9
202.5	2	.1	5	.2	32	1.5	100	4.6	34	1.6	0	0.0	173	8.0
225.0	0	0.0	3	.1	25	1.2	94	4.4	24	1.1	2	.1	148	6.9
247.5	0	0.0	5	.2	36	1.7	26	1.2	14	.6	88	4.1	169	7.8
270.0	1	.0	9	.4	42	1.9	33	1.5	30	1.4	117	5.4	232	10.7
292.5	3	.1	6	.3	24	1.1	26	1.2	22	1.0	71	3.3	152	7.0
315.0	0	0.0	5	.2	5	.2	29	1.3	33	1.5	72	3.3	144	6.7
337.5	0	0.0	4	.2	12	.6	16	.7	25	1.2	11	.5	68	3.1
360.0	2	.1	8	.4	19	.9	13	.6	18	.8	13	.6	73	3.4
	17	.8	141	6.5	430	19.9	751	34.8	353	16.3	468	21.7	2160	100.0

MISSING HOURS 48

MEAN WIND SPEED 17.9

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 2 PERCENT .1



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 200FT

DIRECTION VS SPEED

DIRECTION	0-3		4-7		SPEEDS(MI/HR) 8-12		13-18		19-23		24 PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	0	0.0	15	.7	30	1.4	32	1.5	6	.3	11	.5	94	4.3
45.0	0	0.0	5	.2	23	1.1	50	2.3	14	.6	20	.9	112	5.2
67.5	1	.0	8	.4	26	1.2	9	.4	2	.1	0	0.0	46	2.1
90.0	3	.1	21	1.0	36	1.7	13	.6	0	0.0	0	0.0	73	3.4
112.5	1	.0	14	.6	18	.8	37	1.7	13	.6	2	.1	85	3.9
135.0	1	.0	12	.6	29	1.3	77	3.6	30	1.4	24	1.1	173	8.0
157.5	2	.1	7	.3	30	1.4	72	3.3	29	1.3	23	1.1	163	7.5
180.0	1	.0	16	.7	43	2.0	126	5.8	59	2.7	14	.6	259	12.0
202.5	2	.1	5	.2	32	1.5	100	4.6	34	1.6	0	0.0	173	8.0
225.0	0	0.0	3	.1	29	1.2	94	4.3	24	1.1	2	.1	148	6.8
247.5	0	0.0	5	.2	36	1.7	26	1.2	14	.6	88	4.1	169	7.8
270.0	1	.0	9	.4	42	1.9	33	1.5	30	1.4	117	5.4	232	10.7
292.5	3	.1	6	.3	24	1.1	26	1.2	22	1.0	71	3.3	152	7.0
315.0	0	0.0	5	.2	5	.2	29	1.3	33	1.5	72	3.3	144	6.7
337.5	0	0.0	4	.2	12	.6	16	.7	25	1.2	11	.5	68	3.1
360.0	2	.1	8	.4	19	.9	13	.6	18	.8	134	.6	73	3.4
	17	.8	143	6.6	430	19.9	753	34.8	353	16.3	468	21.6	2164	100.0

MISSING HOURS 44

MEAN WIND SPEED 17.9

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 2 PERCENT .1



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100H  
(200=27FT)

LE-1.9

DIRECTION	0-3		4-7		SPEEDS(MI/HR) 8-12		13-18		19-23		24 PLUS		SUM, PERCENT	
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT
22.5	0	0.0	10	.5	0	0.0	0	0.0	0	0.0	0	0.0	10	.5
45.0	1	.0	3	.1	0	0.0	0	0.0	0	0.0	0	0.0	4	.2
67.5	1	.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
90.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
112.5	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
135.0	0	0.0	1	.0	4	.2	0	0.0	0	0.0	0	0.0	5	.2
157.5	0	0.0	6	.3	9	.4	0	0.0	0	0.0	0	0.0	15	.7
180.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
202.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
270.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
292.5	0	0.0	0	0.0	4	.2	0	0.0	0	0.0	0	0.0	4	.2
315.0	1	.0	4	.2	4	.2	8	.4	0	0.0	0	0.0	17	.8
337.5	1	.0	7	.3	2	.1	0	0.0	0	0.0	0	0.0	10	.5
360.0	3	.1	7	.3	0	0.0	0	0.0	0	0.0	0	0.0	10	.5
	7	.3	42	1.9	23	1.0	8	.4	0	0.0	0	0.0	80	3.6

MEAN WIND SPEED 7.4

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/76-12/76

LOCATION 30-CUP

DEG C/100M  
(200-27FT)

-1.8/ -1.7

SPEEDS(MI/HR)  
8-12

DIRECTION	0-3	4-7	8-12	13-18	19-23	24 PLUS	SUM	PERCENT
	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT		
22.5	0 0.0	3 .1	1 .0	0 0.0	0 0.0	0 0.0	4	.2
45.0	0 0.0	2 .1	0 0.0	0 0.0	0 0.0	0 0.0	2	.1
67.5	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
90.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
112.5	0 0.0	0 0.0	1 .0	0 0.0	0 0.0	0 0.0	1	.0
135.0	0 0.0	1 .0	0 0.0	0 0.0	0 0.0	0 0.0	1	.0
157.5	0 0.0	1 .0	1 .0	0 0.0	0 0.0	0 0.0	2	.1
180.0	0 0.0	1 .0	1 .0	0 0.0	0 0.0	0 0.0	2	.1
202.5	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
225.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0	0.0
247.5	0 0.0	1 .0	2 .1	0 0.0	0 0.0	0 0.0	3	.2
270.0	0 0.0	0 0.0	1 .0	0 0.0	1 .0	1 .0	2	.1
292.5	0 0.0	1 .0	0 0.0	0 0.0	1 .0	1 .0	2	.1
315.0	0 0.0	0 0.0	4 .2	2 .2	1 .0	0 0.0	7	.4
337.5	0 0.0	1 .0	1 .0	2 .2	0 0.0	0 0.0	4	.2
360.0	0 0.0	0 0.0	3 .1	0 0.0	0 0.0	0 0.0	3	.1
	0 0.0	11 .5	15 .7	6 .3	3 .1	6 .3	41	1.9

MEAN WIND SPEED 12.6

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100M : -1.67 m/s  
(200=27FT)

DIRECTION	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	1	.0	6	.3	7	.3	0	0.0	0	0.0	0	0.0	14	.6
45.0	1	.0	4	.2	3	.1	0	0.0	0	0.0	0	0.0	8	.4
67.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
90.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
112.5	2	.1	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	3	.1
135.0	0	0.0	6	.3	0	0.0	0	0.0	0	0.0	0	0.0	6	.3
157.5	1	.0	1	.0	2	.1	0	0.0	0	0.0	0	0.0	4	.2
180.0	0	0.0	1	.0	6	.3	0	0.0	0	0.0	0	0.0	7	.3
202.5	0	0.0	1	.0	2	.1	0	0.0	0	0.0	0	0.0	3	.1
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
247.5	0	0.0	3	.1	1	.0	0	0.0	1	.0	0	0.0	5	.2
270.0	0	0.0	0	0.0	4	.2	2	.1	3	.1	9	.4	19	.9
292.5	0	0.0	0	0.0	0	0.0	3	.1	2	.1	4	.2	9	.4
315.0	0	0.0	1	.0	3	.1	22	1.0	24	1.1	5	.2	55	2.5
337.5	1	.0	1	.0	6	.3	3	.1	0	0.0	0	0.0	11	.5
360.0	1	.0	3	.1	3	.1	0	0.0	0	0.0	0	0.0	7	.3
	7	.3	29	1.3	37	1.7	30	1.4	30	1.4	18	.8	151	6.9

MEAN WIND SPEED 14.2

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100H  
(200-27FT)

1.4/0.5

## SPEEDS (MI/HR)

	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	17	.8	50	2.3	4	.2	0	0.0	0	0.0	0	0.0	71	3.2
45.0	7	.3	39	1.8	16	.7	0	0.0	0	0.0	0	0.0	62	2.8
67.5	6	.3	13	.6	0	0.0	0	0.0	0	0.0	0	0.0	19	.9
90.0	10	.5	14	.6	6	.3	0	0.0	0	0.0	0	0.0	30	1.4
112.5	5	.2	21	1.0	46	2.1	7	.3	0	0.0	0	0.0	79	3.6
135.0	2	.1	24	1.1	26	1.2	6	.3	0	0.0	0	0.0	58	2.6
157.5	2	.1	10	.5	13	.6	4	.2	0	0.0	0	0.0	29	1.3
180.0	1	.0	22	1.0	36	1.6	6	.3	0	0.0	0	0.0	65	3.0
202.5	1	.0	14	.6	31	1.4	0	0.0	0	0.0	0	0.0	46	2.1
225.0	2	.1	6	.3	30	1.4	8	.4	1	.0	0	0.0	47	2.1
247.5	0	0.0	12	.5	10	.5	16	.7	13	.6	36	1.6	87	4.0
270.0	2	.1	7	.3	28	1.3	30	1.4	25	1.1	47	2.1	139	6.3
292.5	4	.2	13	.6	26	1.2	22	1.0	24	1.1	37	1.7	126	5.7
315.0	2	.1	7	.3	46	2.1	42	1.9	23	1.0	9	.4	129	5.9
337.5	3	.1	16	.7	9	.4	5	.2	0	0.0	0	0.0	33	1.5
360.0	5	.2	11	.5	0	0.0	0	0.0	0	0.0	0	0.0	16	.7
	69	3.1	279	12.7	327	14.9	146	6.7	86	3.9	129	5.9	1036	47.3

MEAN WIND SPEED 12.3

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100M -0.4/ 1.5  
(200-27FT)

## SPEEDS (MI/HR)

	0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	9	.4	15	.7	1	.0	0	0.0	0	0.0	0	0.0	25	1.1
45.0	4	.2	11	.5	2	.1	0	0.0	0	0.0	0	0.0	17	.8
67.5	9	.4	8	.4	0	0.0	0	0.0	0	0.0	0	0.0	17	.8
90.0	11	.5	6	.3	0	0.0	0	0.0	0	0.0	0	0.0	17	.8
112.5	16	.7	32	1.5	29	1.3	2	.1	0	0.0	0	0.0	79	3.6
135.0	13	.6	49	2.2	53	2.4	17	.8	3	.1	0	0.0	135	6.2
157.5	11	.5	37	1.7	57	2.6	3	.1	0	0.0	0	0.0	108	4.9
180.0	2	.1	31	1.4	64	2.9	9	.4	0	0.0	0	0.0	106	4.8
202.5	1	.0	24	1.1	43	2.0	0	0.0	0	0.0	0	0.0	68	3.1
225.0	1	.0	12	.5	17	.8	5	.2	1	.0	1	.0	37	1.7
247.5	1	.0	11	.5	10	.5	3	.1	10	.5	8	.4	43	2.0
270.0	2	.1	0	0.0	5	.2	5	.2	8	.4	8	.4	28	1.3
292.5	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	4	.2	5	.2
315.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
337.5	1	.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	3	.1
360.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
	83	3.8	238	10.9	262	12.9	44	2.0	22	1.0	21	1.0	690	31.5

MEAN WIND SPEED 8.6

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100H  
(200-27FT)

1.6 / 4.0

DIRECTION	0-3		4-7		SPEEDS(MI/HR) 8-12		13-18		19-23		24 PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
45.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
67.5	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
90.0	7	.3	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	9	.4
112.5	7	.3	11	.5	1	.0	0	0.0	0	0.0	0	0.0	19	.9
135.0	9	.4	15	.7	1	.0	0	0.0	0	0.0	0	0.0	25	1.1
157.5	3	.1	23	1.0	1	.0	0	0.0	0	0.0	0	0.0	27	1.2
180.0	2	.1	24	1.1	6	.3	0	0.0	0	0.0	0	0.0	32	1.5
202.5	0	0.0	7	.3	0	0.0	0	0.0	0	0.0	0	0.0	7	.3
225.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
247.5	1	.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
270.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
292.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
315.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
337.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	32	1.5	84	3.8	10	.5	0	0.0	0	0.0	0	0.0	126	5.7

MEAN WIND SPEED 4.8

NUMBER OF UNINTERPRETABLE HOURS 0





LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

DEG C/100H  
(200-27FT)

GT. 4.0

		SPEEDS (MI/HR)															
		0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT			
DIRECTION		SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT				
22.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
45.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
67.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
90.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	2	.1			
112.5	9	.4	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	10	.5			
135.0	4	.2	16	.7	0	0.0	0	0.0	0	0.0	0	0.0	20	.9			
157.5	5	.2	20	.9	0	0.0	0	0.0	0	0.0	0	0.0	25	1.1			
180.0	1	.0	10	.5	0	0.0	0	0.0	0	0.0	0	0.0	11	.5			
202.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
225.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
247.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
270.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
292.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
315.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
337.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
360.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
	20	.9	48	2.2	0	0.0	0	0.0	0	0.0	0	0.0	68	3.1			

MEAN WIND SPEED 4.0

NUMBER OF UNINTERPRETABLE HOURS 0



LAPSE RATE WIND DIST, FOR NINE MILE SITE 10/78-12/78

LOCATION 30-CUP

ALL STABILITIES

DIRECTION	0-3		4-7		SPEEDS (MI/HR) 8-12		13-18		19-23		24-PLUS		SUM	PERCENT
	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
22.5	28	1.3	84	3.8	13	.6	0	0.0	0	0.0	0	0.0	125	5.7
45.0	13	.6	59	2.7	21	1.0	0	0.0	0	0.0	0	0.0	93	4.2
67.5	17	.8	22	1.0	0	0.0	0	0.0	0	0.0	0	0.0	39	1.8
90.0	29	1.3	23	1.0	6	.3	0	0.0	0	0.0	0	0.0	58	2.6
112.5	39	1.8	68	3.1	77	3.5	9	.4	0	0.0	0	0.0	193	8.8
135.0	28	1.3	112	5.1	84	3.8	23	1.0	3	.1	0	0.0	250	11.4
157.5	22	1.0	98	4.5	83	3.8	7	.3	0	0.0	0	0.0	210	9.6
180.0	6	.3	89	4.1	113	5.2	15	.7	0	0.0	0	0.0	223	10.2
202.5	2	.1	46	2.1	76	3.5	0	0.0	0	0.0	0	0.0	124	5.7
225.0	3	.1	20	.9	47	2.1	13	.6	2	.1	1	.0	66	3.0
247.5	2	.1	28	1.3	24	1.1	19	.9	24	1.1	45	2.1	142	6.5
270.0	5	.2	8	.4	38	1.7	37	1.7	37	1.7	65	3.0	190	8.7
292.5	4	.2	15	.7	30	1.4	25	1.1	27	1.2	49	2.2	150	6.8
315.0	3	.1	12	.5	57	2.6	76	3.5	48	2.2	14	.6	210	9.6
337.5	6	.3	26	1.2	19	.9	10	.5	0	0.0	0	0.0	61	2.8
360.0	11	.5	21	1.0	6	.3	0	0.0	0	0.0	0	0.0	38	1.7
	218	9.9	731	33.3	694	31.7	234	10.7	141	6.4	174	7.9	2192	100.0

MISSING HOURS 16

MEAN WIND SPEED 10.4

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0

TOTAL NUMBER OF CALM HOURS 2 PERCENT .1



LAPSE RATE WIND DIST. FOR NINE MILE SITE 10/76-12/78

LOCATION 30-CUP

DIRECTION VS SPEED

		SPEEDS (MI/HR)															
		0-3		4-7		8-12		13-18		19-23		24 PLUS		SUM PERCENT			
DIRECTION		SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
	22.5	28	1.3	85	3.9	13	.6	0	0.0	0	0.0	0	0.0	126	5.7		
	45.0	13	.6	59	2.7	21	1.0	0	0.0	0	0.0	0	0.0	93	4.2		
	67.5	17	.8	22	1.0	0	0.0	0	0.0	0	0.0	0	0.0	39	1.8		
	90.0	29	1.3	23	1.0	6	.3	0	0.0	0	0.0	0	0.0	58	2.6		
	112.5	39	1.8	68	3.1	77	3.5	9	.4	0	0.0	0	0.0	193	8.8		
	135.0	28	1.3	112	5.1	84	3.8	23	1.0	3	.1	0	0.0	250	11.4		
	157.5	22	1.0	99	4.5	83	3.8	7	.3	0	0.0	0	0.0	211	9.6		
	180.0	6	.3	89	4.1	113	5.2	15	.7	0	0.0	0	0.0	223	10.2		
	202.5	2	.1	46	2.1	76	3.5	0	0.0	0	0.0	0	0.0	124	5.7		
	225.0	3	.1	20	.9	47	2.1	13	.6	2	.1	1	.0	86	3.9		
	247.5	2	.1	28	1.3	24	1.1	19	.9	24	1.1	45	2.1	142	6.5		
	270.0	5	.2	8	.4	38	1.7	37	1.7	37	1.7	65	3.0	190	8.7		
	292.5	4	.2	15	.7	30	1.4	25	1.1	27	1.2	49	2.2	150	6.8		
	315.0	3	.1	12	.5	57	2.6	76	3.5	48	2.2	14	.6	210	9.6		
	337.5	6	.3	26	1.2	19	.9	10	.5	0	0.0	0	0.0	61	2.8		
	360.0	11	.5	21	1.0	6	.3	0	0.0	0	0.0	0	0.0	38	1.7		
		218	9.9	733	33.4	694	31.6	234	10.7	141	6.4	174	7.9	2194	100.0		

MISSING HOURS 14

MEAN WIND SPEED 10.4

TOTAL NUMBER OF UNINTERPRETABLE HOURS 0  
TOTAL NUMBER OF CALM HOURS 2 PERCENT .1

